

Amendments to Claims

Claims 1-9 (Cancelled).

10. (Currently Amended) A woven fabric comprised of continuous filament yarn, ~~comprised~~ consisting essentially of a co-mingled bundle of 10 to 90 wt % para-aramid filaments and 90 to 10 wt % meta-aramid filaments,

said yarn having a random entangled loop structure wherein the weight per unit length of the yarns is 3 to 25 percent higher than a continuous filament yarn having the same composition but no entanglement or loops.

11. (Original) The woven fabric of Claim 10 wherein the weight per unit length of the yarn is 10 to 18 wt % higher than a continuous filament yarn having no entanglement or loops.

12. (Original) The woven fabric of Claim 10 wherein the yarn having a random entangled loop structure has a linear density of 200 to 1000 denier (220 to 1100 dtex).

13. (Original) The woven fabric of Claim 12 wherein the yarn having a random entangled loop structure has a linear density of 300 to 600 denier (340 to 680 dtex).

14. (Original) The woven fabric of Claim 10 made from a plain weave.

15. (Original) The woven fabric of Claim 10 made from a twill weave.

16. (Original) The woven fabric of Claim 10 wherein the para-aramid filaments are poly(paraphenylene terephthalamide) filaments.

17. (Original) The woven fabric of Claim 10 wherein the meta-aramid filaments are poly(metaphenylene isophthalamide) filaments.

18. (Original) The woven fabric of Claim 10 wherein the para-aramid filaments are poly(paraphenylene terephthalamide) filaments and are present in an amount of 50% and the meta-aramid filaments are poly(metaphenylene isophthalamide) filaments and are present in an amount of 50%.

Claims 19-21 (Cancelled).

REMARKS

The Office communication dated January 28, 2004 sets forth that applicant's document filed on January 14, 2004 failed to provide a complete listing of all claims. Applicant inadvertently failed to list that claims 1 to 9 and 19 to 21 were previously cancelled. This omission is regretted.

The present response replaces applicant's Amendment dated January 14, 2004. The only substantive change is the listing of the cancelled claims.

Reconsideration is respectfully requested of the Office rejection under 35 USC 103(a) of claims 10 to 18.

In the present amendment, claim 10 has been amended such that in the preamble "comprising of" now reads -- consisting essentially of --.

Remaining claims 11 to 18 are dependent on claim 10 and, accordingly, likewise require the limitation of the parent claims.

All claims under prosecution stand rejected over Geirhos USP 5,879,800 with a detailed discussion set forth of the applicability of the publication to various claims under prosecution.

In response, it is considered that the Office rejection focuses on a combination of reinforcing filaments to meet the limitations of the claims. It is considered that the Office reading of the claims is that the required thermoplastic matrix filament of Geirhos can be ignored. The patentee in all instances requires a thermoplastic polymer filament such as disclosed on column 1, lines 55 to 59 in the wording:

The present invention accordingly provides low-shrinkage hybrid yarns comprising reinforcing filaments and matrix filaments composed of thermoplastic polymers having a lower melting point than the melting or decomposition point of the reinforcing filaments.

In response to this grounds of rejection under 35 USC 103(a), claim 10 has been amended in the preamble by changing "comprising of" to read -- consisting essentially of --.

M.P.E.P. 2111.03 sets forth the following wording for the scope of "consisting essentially of":

The transitional phrase "consisting essentially of" limits the scope of a claim to the specified materials or steps "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976) (emphasis in original).

As set forth in the body of the present patent application:

One common problem with the flame-resistant protective apparel worn by firemen and others is that the fabrics used are typically quite heavy to provide needed thermal protection to the wearer.

(page 1, lines 5 to 8)

This invention is directed to a fabric having improved thermal properties, and comfort for use in protective apparel, and a garment containing that fabric.

(page 1, lines 12 to 15)

The woven fabric of the present invention provides improved resistance to elevated temperature such as from a flame compared to a fabric using the same filaments but without entanglements or loops.

(page 2, lines 1 to 4)

This invention also provides for a protective garment such as firefighter's turnout gear, having the fabric of this invention as the outer shell.

(page 2, lines 11 to 13)

Additional disclosure is present throughout remaining sections of the patent application setting forth utility in a firefighting environment with an ability of the fabric to withstand elevated temperatures.

It is considered that the use of "consisting essentially of" in all claims under prosecution eliminates the applicability of Geirhos with its use of a matrix filaments composed of thermoplastic polymers. It is noted that Geirhos discloses on page 7, lines 31 to 35, that melting of the matrix component can occur in conversion and stabilization of textile sheet material into composites. Obviously, melting of a filament lies outside the scope of the present invention and all claims exclude such filament which would affect the basic and novel characteristics of the claimed invention.

Reconsideration and removal of the grounds of rejection is requested. A notice of allowance is solicited.

Respectfully submitted,



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